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ABSTRACT

An analysis of office work (OW) highlights the relationship between formal vocational qualifications and tacit knowledge gained through experience. In OW, "abstracted" skills (typewriting, correspondence) and theory are taught in schools out of their practical context and can become obsolete because of technological change. Some types of "abstract knowledge" (social competencies, personal attitudes) need to be learned in a work context. Historically, women were socialized to supportive roles and routinized work and were able to supply the "abstract knowledge" component of OW using their life experiences and roles. Changes in technology, work organization and career expectations (especially for women) require rethinking the role of school-based skills and workplace practice. General qualifications need to include the ability to cope with open situations in a non-routinized way. Skills, such as empathy, that were part of female gender roles should be incorporated into the formal qualifications for OW. The function of schooling should not mainly be to transfer technical skills and prescriptive knowledge, but to provide a space for reflective and critical training together with background and overview insights. (CG)

H. S. Olesen

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**TACIT KNOWLEDGE AND GENERAL QUALIFICATION.
CONCEPTS OF LEARNING IN EVERYDAY LIFE AND FORMAL
EDUCATION WHEN WORK CHANGES - WITH EXAMPLES
FROM OFFICE WORK**

This paper will address the question of the relations between general qualification, tacit knowledge and formal learning processes. The background is in a research project on general qualification through training (see Andersen m.fl., 1994), and in a practical development of the basis for a future oriented education for office workers (see Andersen/Iversen, 1995). The latter of these projects focused on the role of practical on-the-job-training in a basic vocational education in a context where the education tend to become more and more "theoretical", i.e. based on formal schooling in stead of traditional apprenticeships. The first of the projects studied the quality of new, general qualification that is emerging on demand in all types of industrial work and industrialized service.

I wonder about how the competencies of workers, that are acquired by practical experiences (called tacit knowledge or similar) relate to the new types of competencies included in the concept of general qualification: Are social competencies and personal attitudes rooted in previous experience, and practical abilities linked to specific work relations and technologies an obstacle to new general qualification, or are they a resource. How are they transformed by a learning of new attitudes, new work identities, and more abstract/intellectual understanding of the work process and of the technology involved.

This is of specific importance in continuing vocational education and training: How does the knowledge offered in the formal education and training programmes enrich the practical qualification, that most people already possess? And it is also a highly interesting theoretical question in relation to learning processes and the relation between different types of knowledge, and their interrelation / interdependence.

I shall give some examples from an analysis of office work in the future. I assume that office work has a specific and close intertwining between the vocational qualification

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in a traditional sense and the general qualification, because vocational qualification in this field is depending directly on the cultural techniques (language, Writing, Calculating, Foreign Language) and Personal Attitudes and Behaviour. For this reason it is also assumed to be highly sensitive to historical changes in cultural patterns (including gender roles).

A background of this is presented as a separate small paper, 'General qualification and the Office Worker of the Future'. Please refer to this before you proceed here.

Tacit Knowledge - Everyday Life Learning

The concept of knowledge and learning in the prevailing thinking of education has been questioned lately. The concept of tacit knowledge (Polanyi, 1983/1966) has been imported into the thinking of education and qualification lately, and a broad trend of different versions of thinking have taken their point of departure in the idea about an alternative type of knowledge. The notions have been different, and not very precisely interrelated. But the overall basic idea is a dichotomization of the concept of knowledge, one being "the usual one" and one being an alternative, more practical one.

In signals
abstract, verbal, analytic, cumulative, systematic by disciplines
versus

contextual, practical, holistic recognition of problem, action oriented or embedded in systematic practises

In industrial sociology and qualification research, the concept of tacit knowledge has been introduced to reevaluate that component of 'manpower skills, that are not formally accounted, maybe not explicit in the technological and organizational blueprints, but never the less decisive for any work process and any organization to function.

Also in relation to learning process thinking and pedagogy this concept has been met with increasing interest. Especially in relation to education in the professions and in craft it has (in Denmark) obtained a key concept status. But generally it has been a reminder about the limitations in formal schooling.

In a practical perspective this is not entirely new: It hits in the middle of an existing theme of discussion in Adult Education. Adult educators have for decades been (more) aware (than school teaching) of the importance of participants' experiences. Everyday life oriented learning is not unusual - especially in socially and personally oriented learning. However, it is an increasing trend in adult continuing education, that adults are asked to/forced to acquire formal knowledge in a form, which seems

alien and demotivating, though it would in principle apply to practical experiences and problems, that they do very well know - especially in training and professional

education, but also in general basic education.
The outcome is often poor, and the learning motivation is killed rather than encouraged. The notion of tacit knowledge is used in search for systematic utilization of learning in practical situations - espec. work place learning - to provide a learning environment that is not only cheaper and more acceptable for the participants (if they are workers), but also simply better than usual teaching in relation to motivation and learning efficiency.

In a teaching and learning perspective you might say that this is just a sectorial clash of cultures: That of liberal and general adult education versus that of professional education and training. This is at least partly the case. The discussion about the challenge from the new information technology and artificial intelligence and the form of knowledge, the character of human expertise (in Denmark the Dreyfus brothers are important), has been imported into a pedagogical field with little modification, almost as a metaphor.

However, against the overall trend to schoolification of vocational education and training, the distinction between types of knowledge has questioned the generality of abstract and verbal knowledge.

Theoretical Knowledge and Practical action

The notion of tacit knowledge and related concepts indicates a critique of the knowledge concept and of rationality, that refers to the whole tradition of Cartesian thinking. Especially in relation to the professions this has been a rethinking of the relation between practical experience and theoretical knowledge (Donald Schön, 1983), that challenges the prevailing assumption of scientification of any practical skill.

The scientific theory-practice model assumes a technological and instrumental relation between knowledge and action: Having a scientifically based knowledge of your object (material, tools, situation) you may use this knowledge instrumentally, and act (work) rationally. Scientification of the practical skill consists in decontextualizing all practical procedures, disciplining knowledge in discursive bodies, question all habitual experiences, values and goals etc.

These notions in the theory of knowledge support a revaluation of practical skills and human labour, which is an understandable reaction against a forced scientification of education and training. It is relatively easy - but also very important - to criticize the ideological tendencies in this professional thinking. In the professions it means a practical assumption, that the paradigms of action are well known, stable and

unproblematic. The risk is of course to establish a philosophy, that can resist the challenge of rationality and legitimizing - a defence for the actual practises. If the "scientific" concept of knowledge indicates permanent revolution of work procedures in the name of the technological belief enlightenment idea, that has already become obsolete for so many other reasons, then the " tacit knowledge" concept might mean a de-rationalization in a society that is already structured by an extreme division of labour and an immense dependence on professional work.

However, having made this criticism - which may seem overdone, since most educators and professionals are mainly looking for concepts which could conceive something they all experience - that there is a "surplus knowledge", there is a practical embedding, learning does not follow the rules of scientific and technological action - I think it is important also to face the challenge of this notion of tacit knowledge.

This seems to be a relevant perspective to any vocational and professional education and training. Leaving the professions and rather turning to the continuing education and training of skilled and unskilled workers, I want to discuss the implications of these concepts of knowledge and learning in a process of changing work - in terms of work qualification and in terms of learning processes.

Theoretical and practical knowledge in office work

Office work seems to be the one area of skilled work, which is most directly depending on "theoretical knowledge", and (at least in Denmark) the most school-based vocational education. It thus may count as a vanguard example of the question: What is theoretical knowledge in a practical vocational education and training?

In office work education you find several forms of teaching, that are "abstracted" skills - from typewriting, correspondence in Danish and foreign languages, accounting - subjects that are in different aspects derived from a classical version of office work, but taken out of their practical context. These subjects are extremely sensible to historical changes - most of them being devaluated by contemporary developments of technology and work.

You also find abstract knowledge and skills, that have a status as general cultural skills/techniques. They have had a specific importance in the office work, because it in a specific level of division of labour was the intellectual, information-handling and communication function of the entire economy, serving directly the societal organization of work. So the main cultural techniques occurred to be of specific value to this vocation.

However, case studies in office work indicate, that office work qualification is dependent not only on the knowledge acquired in school, and not even the one acquired at work, but also on the socialization and cultural background - a tacit

knowledge of the women, utilizing a combination of competences, derived from very different spheres of life experience. Beside the general cultural techniques, "good basic schooling", it consists of social competences and personal attitudes, that are not based on vocational training and education. Some of them are learned in work, by adapting to the practical work procedures, and can only be acquired in the work context. But others depend on previous gender socialization with a class specific flavour, and are from a historical period of women becoming wage labour, where women have a job, but still relate to it with limited expectations and ambitions, enabling them to accept and fulfill successfully the role of supporter for the (male) management and taking care of the entire social milieu of the work place.

In the present development of work the qualification demands change in a way, that will devalue many of the vocational skills acquired in the work context, and will also devalue the "abstracted skills" acquired by schooling. They are the skills being first substituted by information technology. The jobs will demand more independent action - routine work will disappear - and new more complex logistics, information handling and servicing will be in focus. The practical experiences will devalue, and the formal training in vocational disciplines will be outdated. The cultural techniques will not be outdated, but their differential significance is declining.

What is equally serious is the fact, that the gender and class base of the office worker has changed in a broader sense. At least in Denmark - it may be necessary to count on cultural and social differences between countries - women tend to be fully employed, and have the same ambitions and expectations invested in their jobs as men have. So the well educated and well schooled girl from lower middle class fit for a routine job is disappearing. So the hitherto "spontaneous" adaption of a social identity to office work will not be available - and the competencies must be trained in an educational process.

Altogether it makes up what we specified as the need for more general qualification (Andersen et al, 1994). This presents a very basic challenge to the entire system of vocational education and training.

These developments raise entirely other questions than just finding an updated curriculum, or defining the core of the office worker qualification - which in the scientific version of education would be the task. The outdated or redefining of formal, "theoretical" as well as "tacit", practical skills and knowledges does not imply substituting the latter with more of the former.

However, it is even more clear that it is also not satisfactory to relate just to a new working situation, and train tacit knowledges to cope with it. Practical training may still be a valuable option, but the status as normative and prescriptive experience based training is not possible. General qualification includes ability to cope with open situations in a non-routinized way.

Technological and organizational skills and knowledges must be generalized, but the practical and contextual sense is not less essential than before. On the same time the need for social and personal involvement in work is not declining, on the contrary it is generally inclining, but with new roles.

In office work empathy is still necessary, but professionalized into taking care of relations and being service minded - instead of caring for one male boss and a few female colleagues. The ability to change perspective and be empathic can no longer be just an aspect of female subordination - the empathic person must also be independent, self-confident and may be even competitive.

Everyday Life Consciousness and Experience

The case of the office work shows how the status of knowledges and skills is being redefined by fundamental processes in cultural and social structure on the one side, and the work organization and technology on the other side. This development of a new type of general qualification cannot be described as a relation between two complementary forms of knowledge - they do not seem to be complementary, and the real dynamic in learning seems to depend on interrelations between them that cannot be sufficiently characterized by the forms of knowledge. Further, it illustrates that not only skills acquired in practical work, but a wider context of personal and social learning and identity is involved.

This calls for a different way of accounting for the role of concrete life experience in the development of (general) qualification. It must be process-oriented and content-oriented - also indicating a different way of defining the role of theory in learning. I refer to a concept of experience and a concept of everyday life consciousness as introduced in (Olesen, 1989): "Experience is the process whereby we as human beings, individually and collectively, consciously master reality, and the ever-living understanding of this reality and our relation to it" (p67).

These concepts share some points with, but are also critically different from the concepts of tacit knowledge.

The concept of "tacit knowledge" recognizes the cognitive structure of knowledge defining a concept or a phenomenon by its "meaning" in a context, i.e. its practical side. This contextuality makes it very "realistic" - as far as it recognizes that knowledge is interwoven with a pragmatic context. I share the view, that the everyday life knowledge and practical learning is pragmatic and tend to support a possible action paradigm in the relevant context (I call it "everyday life consciousness", with a concept from Leithäuser and others (Leithäuser, 1976)). This type of consciousness and the action paradigms related to it (routines) are likely to be quite conservative and "closed". It may be corrected or challenged by knowledge, which

is not tied to this action paradigm - which may in turn, of course, be presented by continuing training or education. Sometimes, and to a certain extent, the formal education has the function of criticizing and enlightening traditional and routinized practices.

This opposite type of knowledge, defined by a discourse, represent an abstraction. The critical point is the quality of this abstraction in relation to the knowing subject, as well as to an action perspective. This depends on the relation of discourse to reality (this is where history comes in), and the relation between a knowing and acting subject and the discourse (this is where learning comes in).

This is not merely a complementary relation between types of knowledge. It is a "competitive" or conflicting one, which is at least a matter of concrete contents, of problems that are faced in the action paradigm, and solutions offered by the knowledge - or of prescriptions offered in discursive knowledge, and its relation to obstacles/conditions in the context. That is to say, knowledge types competing by pragmatic value.

But I also assume, that the ongoing experiencing and acting is a part of a subjective life history, and that the interpretation of perceptions and problems are strongly influenced by active defence mechanisms. This means, that the perception is not only pragmatic, but that it also may relate present reality to previous life experiences, and especially tend to reduce unknown into well known phenomena, exclude conflict potential etc. The interrelation of discursive knowledge and pragmatically defined knowledge is thus a subjective process, not only informed by the development in actual reality (f.i. work processes), but also a more open or more defensive subjective relation to this reality, depending on a different reality (individual and cultural situation).

Theoretical knowledge may be acquired in a learning process, developing the subjective capacity to differentiate. Professionalization of empathy is an extreme example: Transferring a capacity from a (female) socialization in general, treating the male boss like your husband, and colleagues like family members, may produce an element of aggression and humiliation, that must be repressed. If this latent conflict is conceptualized and defined in roles, functions and relations, including the permission to a certain assertiveness, you may speak of a learning process, including a knowledge about organizations and relations as well as a knowledge of your self and an identity redefinition. A more competent and also more autonomous worker may emerge. A plumbers accommodation to use plastic pipes in stead of steel pipes for some constructions, but not for all, may probably be analysed in an analogue way. The concept of experience focus on this processual and relative development of knowledge in a pragmatic context, informed by cultural "fortunes" (bodies of knowledge), but also embedded in a psychological process.

Experience also relates to historical change. In our time, the cumulation of discursive scientific knowledge has been the progressive force of change of work. The overall cultural development is closely related to this. This may no be eternal. Disasters of the scientific technology and contradictions in social technology catalyse a new collective experience about science and nature, that may define other dynamics of progressive change of work. It must, however, be a demand for a concept of learning and knowledge, that it may encompass this historical dimension in its complexity and societal dimension.

Learning and general qualification

Learning is an ability to perceive and understand reality as well as your own action. It is only possible by means of an ability to discriminate present reality from the patterns from previous life experiences, in which they might tend to be reduced. To put it in knowledge theory terms, the ability of decontextualizing the phenomenon from a previous meaning, and imagine or search for new possible meanings in recognizing present reality.

When exposing people to new realities - the ability to utilize previous experience, which is bound in contexts of a past life history, or embedded in another life sphere, the ability to develop realistic understanding and new possible action paradigms, is dependant on a basic elaboration and re-assessing activity, that reflects previous experiences, decontextualize and re-contextualize them. You cannot create a new skill by leaving those experiences behind, and giving new prescriptions. (A fact, that I think we all know practically). The fact, that work qualification is deeply dependant on tacit knowledge corresponds with this assumption. Even knowing something in a discursive manner does not necessarily mean that you act according to this knowledge.

In our project on General qualification (Andersen et al 1994) we had to leave the questions about learning quite open. In the search model, that I presented in the office work paper, it might however seem as if general qualification is simply competencies located on a deeper and thus more basic level than the specific work and life competencies (see model). At present I think that the dynamics of learning operates on all three levels at the same time. At the "specific" level as diversity or change of concrete action paradigms (f.i. change in work processes), and related specific qualifications. At the "comprehensive" level as different discourses, partly competing, and including conceptual systems as well as "attitudes" and orientations in the field for application of these discourses. And at the "basic level" as a dynamics in the identity, encompassing development and ambivalence

General qualification then, rather than being the discursive or abstract type of knowledge, is the ability to differentiate and organize new experiences and

knowledges in relation to previous action paradigms and consciousness. In key concepts you might call it an ability to "transcendence" and a "tolerance towards ambivalence" - i.e. cognitive and emotional capacity to establish an open relation between previous knowledge and identity, and a new reality.

For the continuing vocational training and vocational education the implications might be a new idea about the function of schooling, and new types of theoretical knowledge. The function of schooling should not mainly be to transfer knowledge, but rather to create a free social space, where the enforced action and the routinization is minimal as compared to work life situation - but where experiences and conflicts from this everyday work situation is being recognized and voiced. And the types of (theoretical) knowledge, that are needed, is not mainly technical skills and prescriptive knowledge - but reflective and critical training together with background and overview insights. I shall not enter into the teaching and organization consequences of this, but they may be considerable.

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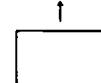
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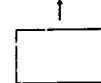
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